



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,987	04/25/2001	Tsung-Lin Lee	3722-0104P	5347

2292 7590 07/14/2004

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

HA, DAC V

ART UNIT	PAPER NUMBER
----------	--------------

2634

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,987

Applicant(s)

LEE, TSUNG-LIN

Examiner

Dac V. Ha

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This application is in condition for allowance except for the following formal matters:

Claim 1:

Line 1, "the transmission mode" should be changed to "a transmission mode".

Lines 16-17, "the time period" should be changed to "a time period".

Line 17, "the auto-correlation" should be changed to "an auto-correlation".

Claim 2:

Line 4, "RC" should be spelled out.

Line 4, "the negative terminal" should be changed to "a negative terminal".

Claim 3, lines 3-4, "the envelope waveform" should be changed to "the rough envelope waveform".

Claim 4:

Line 3, "the mode II" should be change to "a mode II".

Line 3, "the mode IV" should be changed to "a mode IV".

Line 4, "the mode I" should be changed to "a mode I".

Claim 5:

Line 1, "the correlation function" should be changed to "a correlation function".

Parameters "y", "C" and "D" should be clearly defined.

Line 6, "the maxima" should be changed to "a maxima".

Line 6, "the sequence" should be changed to "a sequence".

Claim 6:

Lines 1-2, the definition of " C_k " and " D_k " should be consistent with that in claim 5 (i.e., it appears that " C_k " and " D_k " are referred to as a maxima in claim 5).

Lines 2-3, "the false detections" should be changed to "false detections".

Line 3, "the S/N" should be changed to "a signal-to-noise ratio (S/N)".

Line 3, "too low" should be changed to some definite term to avoid 112, Second Paragraph problem (i.e., it's not clear how low is "too low").

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

2. Claim 1-8 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

Prior art of record, taken individually or collectively, fails to fairly teach "a transmission mode detector for digital receiver" utilizing OFDM signal, as claimed, including "an envelope detector for filtering the IF signal and generating a rough envelope waveform; a slicer for quantizing the rough envelope waveform into a binary signal with high and low potentials; a glitch remover for removing glitches in the binary signal and generating an envelope signal" and "a mode detection unit for detecting the

Art Unit: 2634

transmission mode according to the time period of the envelope signal and the auto-correlation of the OFDM symbols" in independent claim 1 (claims 2-8 depend therefrom). Thus, claims 1-8 are found to be novel and unobvious over prior art of record.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sano et al. (US 6,381,251) disclose Data Transmission Apparatus And receiving Apparatus Using Orthogonal Frequency Division Multiplex Modulation System.

Kishimoto et al. (US 6,314,083) disclose Frequency Control Device And Method For Frequency Synchronization With Multiplex Signal By OFDM, Receiving Device, And Communication Device.

Huang et al. (US 6,058,101) disclose Synchronization Method And System For A digital Receiver.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2634

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', with a horizontal line drawn underneath it.

Dac V. Ha
Examiner
Art Unit 2634